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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,425	10/20/2003	Gordon Bremer	061606-1671	2794
24504 7590 02/05/2008 THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP 600 GALLERIA PARKWAY, S.E. STE 1500 ATLANTA, GA 30339-5994			EXAMINER TSE, YOUNG TOI	
			ART UNIT 2611	PAPER NUMBER
			MAIL DATE 02/05/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/689,425	BREMER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	YOUNG T. TSE	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 November 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-16 and 18-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31-36 is/are allowed.
- 6) ☒ Claim(s) 2-4, 6, 8-15, 19, 20, 22, 26-30 and 37-40 is/are rejected.
- 7) ☒ Claim(s) 5, 7, 16, 18, 21 and 23-25 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 07, 2007 has been entered.

### ***Response to Arguments***

2. Applicant's arguments, see pages 9-26, filed on November 07, 2007, with respect to the rejection under 35 U.S.C. 102(b) have been fully considered and are persuasive. The rejection of claims 5, 7, 16, and 18 has been withdrawn.

3. Applicant's arguments, see pages 9-26, filed on November 07, 2007, with respect to the rejection(s) of claim(s) 8, 13, and 19 under 35 U.S.C. 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Goldstein, Betts et al., and Archibald et al..

4. Applicant's arguments filed on November 07, 2007 have been fully considered but they are not persuasive.

Argument: Applicants argue Goldstein does not disclose, teach, or suggest either "negotiating, with a second DSL modem, a value for a first performance parameter or requesting, from the second DSL modem, an adjustment in a second performance parameter associated with the received signal, wherein the second performance parameter is different from the first performance parameter" as recited in claim 2. Therefore, Applicants request that the rejection of claim 2 being withdrawn. Applicants further argue that both independent claims 14 and 22 recite similar subject matters of independent claim 2 and the rejection of claims 14 and 22 being withdrawn.

Response: The examiner respectfully disagrees, Goldstein discloses a first modem 1 and a second modem 2 in Figure 1, wherein each modem comprises a transmitter circuit for transmitting data to a receiver circuit of another modem through a transmission channel, a receiver circuit for receiving data transmitted from a transmitter circuit of another modem through the transmission channel; a memory; and a microprocessor has accompanying program for demodulation, decoding as necessary, etc of the receiver circuit. Referring to Figure 1, the receiver circuit of the receiving modem measures a signal noise ratio and an inter-modulation distortion (IMD), calculate an error rate for the transmission if the power of a transmission signal is maintained at its maximum permissible level. Col. 2, lines 18-49, col. 5, lines 33-48, col. 5, line 66 to col. 6, line 4, and col. 9, lines 10-52. Based on the control information of the receiving modem, the sending modem adjusts or control the power of the transmitted signal, the power can be adjusted to an optimal level to reduce error rate to a minimum, as the decrease in power increases the error rate due to signal noise ratio.

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Col. 3, lines 2-28 and col. 5, lines 49-56. Regarding claim 2, for example, the receiver circuit of the receiving modem negotiates with a transmitting modem (notice since the transmission power level of the transmitting modem is based on the control information of the power level of the receiving modem), a value for a first performance parameter, for instance, a value of the error rate; receives from the transmitting modem, a signal (the power of the transmitted signal) exhibiting the first performance parameter; determines the signal-to-noise-ratio for the received signal; and requests from the transmitting modem, an adjustment (the increment or decrement power level of the control information in the receiver circuit of the receiving modem) a second performance parameter associated with the received signal, wherein the power level of the second performance parameter is different from the error rate of the first performance parameter. Therefore, the rejection of claim 2 rejected under 35 U.S.C. 102(b) as being anticipated by Goldstein is proper as well as independent claims 14 and 22. The detailed rejection of the rejected dependent claim will be discussed below.

### ***Claim Objections***

5. Claims 13, 28 and 37-40 are objected to because of the following informalities:

In claim 13, lines 1 and 2, "a signal" and "an adjustment" should be "the signal" and "the adjustment", respectively, for clarity.

In claim 28, line 1, "method" should be "system".

In claim 37 (lines 10 and 11) and claim 40 (line 2), "modem" should be "DSL modem". Dependent claims 38 and 39 depend from claim 37.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 37 recites the limitation "the DSL" in line 2. There is insufficient antecedent basis for this limitation in the claim. Dependent claims 38 and 39 depend from claim 37.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 2-4, 6, 9-11, 14-15, 20, 22, 28-30, and 37-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Goldstein U.S. Patent No. 5,265,151.

Goldstein discloses a first modem 1 and a second modem 2 in Figure 1, wherein each modem comprises a transmitter circuit 34a or 34b for transmitting data to a receiver circuit 38b or 38a of another modem through a transmission channel 25, a receiver circuit 38b or 38a for receiving data transmitted from a transmitter circuit 34a or 34b of another modem through the transmission channel 25; a memory 32a or 32b; and

a microprocessor 30a or 30b has accompanying program for demodulation, decoding as necessary, etc of the receiver circuit.

Referring to Figure 1, the receiver circuit of the receiving modem measures a signal noise ratio and an inter-modulation distortion (IMD), calculate an error rate for the transmission if the power of a transmission signal is maintained at its maximum permissible level. Col. 2, lines 18-49, col. 5, lines 33-48, col. 5, line 66 to col. 6, line 4, and col. 9, lines 10-52. Based on the control information of the receiving modem, the sending modem adjusts or control the power of the transmitted signal, the power can be adjusted to an optimal level to reduce error rate to a minimum, as the decrease in power increases the error rate due to signal noise ratio. Col. 3, lines 2-28 and col. 5, lines 49-56.

Regarding claims 2, 14, 22, and 37, for example, in claim 2, the receiver circuit of the receiving modem negotiates with a transmitting modem (notice since the transmission power level of the transmitting modem is based on the control information of the power level of the receiving modem), a value for a first performance parameter, for instance, a value of the error rate; receives from the transmitting modem, a signal (the power of the transmitted signal) exhibiting the first performance parameter; determines the signal-to-noise-ratio for the received signal; and requests from the transmitting modem, an adjustment (the increment or decrement power level of the control information in the receiver circuit of the receiving modem) a second performance parameter associated with the received signal, wherein the power level of the second performance parameter is different from the error rate of the first performance

parameter. In addition to claim 37, each modem comprises a well known demodulator within the receiver circuit 38a and 38b, a memory 32a or 32b, and a processor 30a or 30b has accompanying program for demodulation, decoding as necessary, etc of the receiver circuit (col. 4, lines 7-12 and 58-62) configured to perform the negotiating, the determining, and the requesting as mentioned in claim 2 above.

Regarding claim 3, the receiver circuit also receives from the transmitting modem, a second signal (IMD) exhibiting the first performance parameter and the adjustment of the second performance parameter.

Regarding claims 4 and 15, the second performance parameter is transmit power level. Col. 2, lines 46-54 and col. 5, lines 44-56.

Regarding claims 6, clearly, the negotiation of claim 2 is performed after receiving the first signal and before determining the signal noise ratio.

Regarding claims 9, 20, and 38, the selection of the second parameter is from a plurality of possible performance parameters, for example, the increment and decrement of the transmitted power levels. Col. 4, lines 64-68.

Regarding claims 10 and 11, the steps performed in claim 2 are repeated until the first performance parameter of the received signal is marginally supported or until the received signal marginally supports the adjustment to the second performance parameter. Col. 2, lines 51-54.

Regarding claims 12, 26-27 and 39-40, inherently, it is well known to a person skill in the art that a received signal can be, for example, a frequency band received signal including sub-band or sub-carrier that often used in a received signal of an OFDM



communications system in order for the receiver circuit of the receiving modem to determine the signal noise ratio of a sub-band in the received signal and further adjust the second performance parameter associated with the sub-band of the received signal to generate the transmit power level to the transmitting modem.

Regarding claims 28-30, the criteria or value of the first performance parameter, for example, the signal noise ratio and/or IMD or both can be considered as a limiting criteria or value.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 8 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldstein as applied to claims 6 and 14, respectively in view of Betts et al. U.S. Patent No. 5,682,378 (hereinafter "Betts").

Regarding claims 8 and 19 as applied to claims 6 and 14, respectively, Goldstein discloses and teach that the second performance parameter is transmit power level, but does not explicitly show or suggest that the error rate of the first performance parameter is transmit data rate.

Betts discloses an analogous transmitting modem and receiving modem to improve the signal to noise ratio (SNR) of the receiver of the transmitting modem, wherein the transmitting modem is equipped with the ability to cancel the far listener echo. Betts also teaches that by doing so results in an improved SNR for the receiver of the transmitting modem, thus allowing higher data rates or reduced error rates. Col. 1, lines 26-57. In other words, when the error rate of the SNR in Goldstein's receiver of the transmitting modem is reduced, the data rate is SNR is higher.

Therefore, it would have been obvious to one of ordinary skill in the art that the error rate of the first performance parameter in Goldstein's receiver of the transmitting modem is transmit data rate as taught by Betts in order to increase or decrease the data rate based on the SNR of the received signal.

12. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goldstein as applied to claim 2 in view of Archibald et al., U.S. Patent No. 5,369,703 (hereinafter "Archibald").

Regarding claim 13 as applied to claim 2, although Goldstein does not explicitly show or suggest that the received signal and the requested adjustment transmitted/received over the transmission channel 25 are two transmission channels over a primary channel and a secondary channel, respectively.

Archibald also discloses an analogous transmitting modem (local modem) and receiving modem (remote modem) in Figures 1 and 3, and teaches that currently modems provide command/control mode signaling over a low speed secondary channel superimposed over the primary data channel. Commands sent from one modem to another modem using a secondary channel are sent at a rate much slower than the primary channel data rate. Col. 1, lines 14-19. In other words, when the error rate or transmission rate of the received signal is slower than the transmit power level in the receiver of Goldstein's transmitting modem, the received signal needs to be transmitted over a primary channel and requested adjustment needs to be transmitted over a secondary channel as taught by Archibald.

Therefore, it would have been obvious to one of ordinary skill in the art to transmit the error rate of the received signal over a primary channel and the requested adjustment of the power level over a secondary channel in the receiver of Goldstein's transmitting modem as taught by Archibald in order to transmit two different signals, for example, have two different transmission rates over two different transmission channels.

***Allowable Subject Matter***

13. Claims 31-36 are allowed.
14. Claims 5, 7, 16, 18, 21, and 23-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

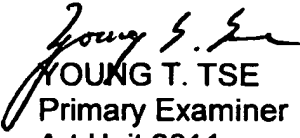
Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOUNG T. TSE whose telephone number is (571) 272-3051. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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YOUNG T. TSE  
Primary Examiner  
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